LITEON CM1414ELR

MODEL

SERVICE MANUAL

Please Note:

The following information is provided in the interests of safety.

1). This equipment is mains powered (230 Volts AC) and is therefore potentially hazardous once the cover is removed.

2). Only trained engineering staff should attempt any work on the unit with the cover removed.

3). While servicing the unit , protect the mains supply to the equipment under test and all electrically powered test equipment with a suitably rated Residual Current Circuit Breaker (rccb) unit. These devices are readily available and are designed to remove the mains supply quickly in the event of a serious leakage of current to earth.

4). Ensure all test equipment, and the unit under test is adequately earthed .

5). Always discharge the CRT before attempting any work on the high voltage power circuits.

6). We advise the use of Electrostatic Damage Prevention equipment when servicing electronic equipment containing static sensitive devices.

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SPECIFICATIONS

Application:	A typical data display device for graphics & text PC applications.
Power Input:	80 watts (nominal) AC rated voltage. Refer to rating label.
Video Signals:	Analog: 0.7 Vp-p, RGB positive.
Sync. Signals:	Separate Sync: Horiz./Vert., TTL, positive or negative.
Sync. Frequencies:	Horizontal: 31.468 KHz / 35.52 KHz Vertical: 50 - 87 Hz
Signal Connectors:	15-pin, D-shell connector.
Display Tube:	14" 90 degrees, 575R, 29.1o neck, 0.28mm dot pitch, in-line gun, non-glare screen. Type number: M34KBV80X11
Display Area:	VGA modes : 243 x 183mm (H x V) SVGA mode : 240 x 180mm (H x V) 8514/A mode: 246 x 183mm (H x V)
Display Colors:	Infinite
Display Characters:	80 char. x 60 rows on a 10x10 matrix.
Maximum Resolution:	1024 dots x 768 lines
Misconvergence:	Center Area:<=0.3mm Corner Area: <=0.4mm
User Controls:	Power ON/OFF, Brightness, Contrast, Horiz. Phase, Vert. Size. Vert. Center.

Service Controls:	PWB-1002: R-BKG, G-BKG, B-BKG , R-Bias, G-Bias, B-Bias. PWB-1029: G1 Voltage Adjust., Pincushion, Horiz. Width, Horiz. Hold 1, Horiz. Hold 2, Horiz. Phase, Vert. Size, Vert. Center, Vert. Linearity, Vert. Hold, Screen.
Environmental Conditions:	Operation: 10 to 35 degrees C ambient. Storage: 0 to 65 degrees C ambient. Humidity: 8% to 80% (non-condensing). Altitude: up to 7000 ft. above sea-level.
Dimensions:	347mm (H) x 355mm (W) x 390mm (D).
Gross Weight:	14 kgs.

SIGNAL CABLE PIN CONNECTIONS

Pin	Signal	Pin	Signal
1	Red Signal	8	Blue Return
2	Green Signal	9	No Pin
3	Blue Signal	10	Digital Ground
4	Monitor Sense Ground to Pin 10	11	Jumper to Pin 10
		12	No Pin
5	Ground	13	Horizontal Sync.
6	Red Return	14	Vertical Sync.
7	Green Return	15	No Pin

SAFETY PRECAUTIONS AND NOTICES

SAFETY PRECAUTIONS

1. Observe all cautions and safety related notes located inside the monitor cabinet and on the monitor chassis.

2. Operation of the monitor outside its cabinet or with the cover removed involves the risk of shock from the monitor power supply. Repair work on the monitor should not be attempted by anyone who is not thoroughly familiar with all necessary safety precautions and procedures for working on high voltage equipment.

3. Do not install, remove, or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept at a distance during handling of the picture tube. Keep the picture tube away from the body during handling.

4. The picture tube is constructed to limit X-radiation to 0.5mR/HR at 300 micro-amperes anode current. For continued protection, use the recommended replacement tube only, and adjust the voltages so that the designated maximum rating at the anode will not be exceeded.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have been specially inspected for safety, and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage etc. Before replacing any of these components, read the Spare Parts List at the end of this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as those specified in the Spare Parts List may result in shock, fire, X-radiation or other hazards.

SERVICE NOTES

1. When replacing parts or circuit boards, clamp the lead wires around the terminals before soldering.
2. When replacing a high wattage resistor (>0.5 W metal oxide film resistor) in the circuit board, keep the resistor about 1 cm (1/2") away from the circuit board.
3. Keep wires away from high voltage or high temperature components.
4. Keep wires in their original positions so as to minimize inteference.

SAFETY TEST

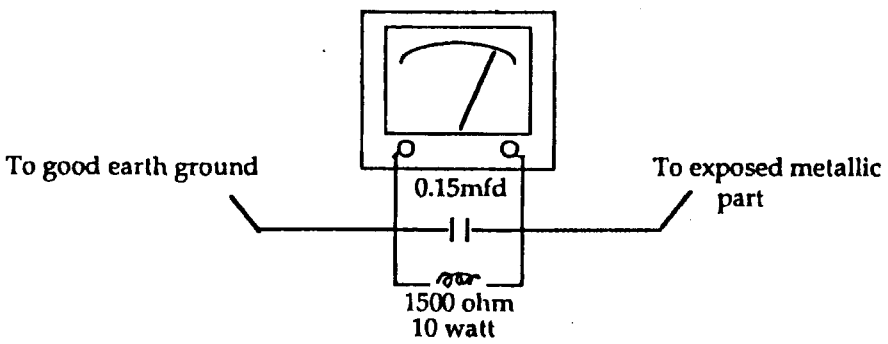
Before returning a serviced monitor to the customer, a thorough safety test must be performed to verify that the monitor is safe to operate without danger of shock. Always perform an AC current leakage check on the exposed metallic parts, such as screw heads, as follows:

1. Plug the AC line cord directly into a rated AC. Do not use a Line Isolation Transformer during this check).

2. Use an AC voltmeter having at least 5000 ohms per volt sensitivity as follows: Connect a 1500 ohms 10 watt resistor, paralleled by a 0.15mfd, AC type capacitor between a known good earth ground (such as a water pipe or conduit etc.) and the exposed metallic part simultaneously. Measure the AC voltage across the combination of 1500 ohms resistor and 0.15mfd capacitor.

3. Reverse the AC plug at the AC outlet and repeat the steps for AC voltage measurements for each exposed metallic part.

4. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2 milli-amps AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



ALIGNMENT AND ADJUSTMENT

1. ADJUSTMENT CONDITIONS

Power Supply: AC 220V, 60 Hz

Warm-up Time: The monitor should be powered on for at least 15 minutes before any adjustments are made, except for convergence, when 30 minutes are required.

Signal Input:
1. Video: RGB Analog, 0.7 Vp-p, positive.
2. Sync. : Horiz. and Vert. separated, positive or negative.
3. Scanning Frequencies: FH: 31.468 KHz / 35.52 KHz
   FV: 50 - 87 Hz
4. All adjustments should be made using a signal of FH=31.468 KHz, unless otherwise defined.

2. ADJUSTMENT EQUIPMENT

a. Volt-ohm-A meter (Sanwa FD-750C or equivalent).
b. 30KV high voltage probe (HP34111A).
c. Oscilloscope (TEK2235 or equivalent).
d. White balance adjuster (Minolta Color Analyzer II).
e. Signal generator (IBM PC with VGA card or equivalent).
f. Screwdriver.

3. SWITCHING POWER SUPPLY - Regulator Adjustment (PWB1029)

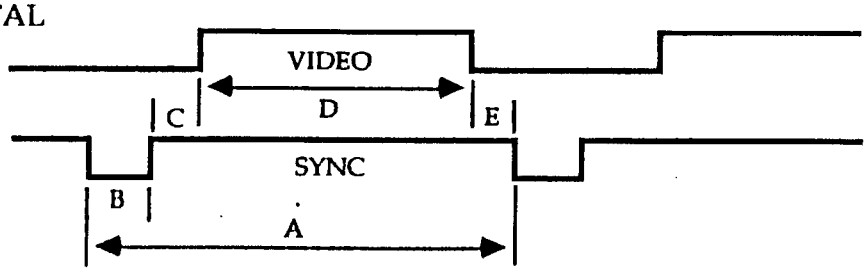
The regulated B+ control has been preset in the factory and needs no adjustment. However, if any repairs are made on the equipment, the following readjustment procedures are recommended.

a. Allow the monitor to warm-up for about 15 minutes.
b. Do not apply any signal to the monitor.
c. Connect a DC meter to **C820** (on the main PCB), and adjust **VR823** for 84V DC.
d. If a fuse is broken during adjustment, remember to replace it with the exact same type of fuse.

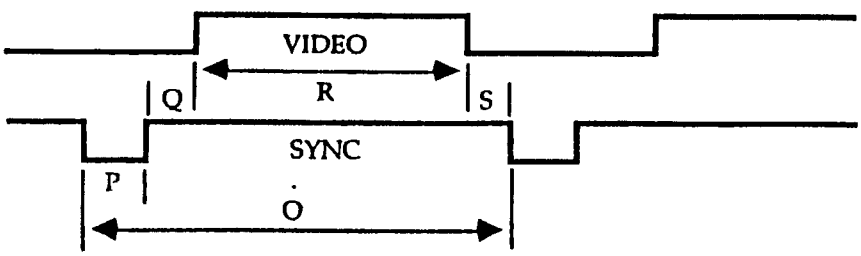
4. **Parameter list of signal timings generated:**

Vertical Lines	**350**	**400**	**480**	**600**	**768**
Horizontal Freq.	— 31.468 KHz—			35.2 KHz	35.5 KHz
Sync. Polarity	POS	NEG	NEG	POS	POS
A us	31.78	31.78	31.78	28.44	28.15
B us	3.81	3.81	3.81	2.00	3.92
C us	1.91	1.91	1.91	3.66	1.16
D us	25.42	25.42	25.42	22.22	22.80
E us	0.64	0.64	0.64	0.67	0.67
Vertical Freq.	70 Hz	70 Hz	60 Hz	56.25 Hz	87 Hz interlaced
Sync. Polarity	NEG	POS	NEG	POS	POS
O ms	14.27	14.27	16.68	17.78	11.50
P ms	0.06	0.06	0.06	0.06	0.11
Q ms	1.91	1.11	1.05	0.63	0.56
R ms	11.12	12.71	15.25	17.07	10.80
S ms	1.18	0.38	0.32	0.03	0.01

HORIZONTAL



VERTICAL



5. ALIGNMENT PROCEDURES

A) SYNCRONIZATION ADJUSTMENT

Input Signal: Cross Hatch Pattern

640 mode: Adjust Horiz. Hold 1 [**VR405**] to obtain horiz. freq.
31.468 KHz (+/-10%).
800 & 1024 modes: Adjust Horiz. Hold 2 [**VR414**] to obtain horiz. freq.
35.52 KHz.
640 mode: Adjust Vert. Hold [**VR304**] until the cross hatch pattern is stable.

B) DISPLAY DATA POSITION ADJUSTMENT

Input Signal: Cross Hatch Pattern

1. Set Brightness to maximum.

2a. 31.468 KHz mode: Adjust Horiz. Phase 1 [**VR411**] & Vert. Center
[**VR318**] so that the display data is central on the screen.
b. 35.52 KHz modes: Adjust Horiz. Phase 1 [**VR411**] & Vert. Center
[**VR318**] so that the display data is central on the screen.

C) PICTURE SIZE ADJUSTMENT

Input Signal: Cross Hatch Pattern

Horiz. Width:
600 mode: Adjust **L402** so that the horiz. width of the picture
is 240mm + 3mm/ - 2mm

Vert. Height:
350 mode: Adjust **VR124** so that the vert. height of the picture
is 183mm +/- 3mm
400 mode: Adjust **VR125** so that the vert. height of the picture
is 183mm +/- 3mm
480 mode: Adjust **VR126** so that the vert. height of the picture
is 183mm +/- 3mm
600 mode: Adjust VR127 so that the vert. height of the picture
is 180mm + 3mm/ - 2mm
768 mode: Adjust **VR127** so that the vert. height of the picture
is 183mm +/- 3mm

D) WHITE BALANCE ADJUSTMENT

Input Signal: Full White Video - VGA mode
Drive VRs: VR502, VR532, VR562.
Bias VRs: VR910, VR940, VR970.

1a. Set Brightness & Contrast to maximum.

b. First adjust **VR940** to its center position.
Then adjust **VR970** so that Y = 0.290 +/- 0.030
and adjust **VR910** so that X = 0.280 +/- 0.020

2a. Set Brightness to center detent & Contrast to maximum.

b. Adjust **VR532** for 45Vp-p of the G. gun input at the cathode.

3a. Set Brightness to center detent & Contrast to 10 Fl.

b. First adjust **VR562** so that Y = 0.290 +/- 0.030
then adjust **VR502** so that X = 0.280 +/- 0.020

4a. Set Brightness to maximum & the G2 voltage just before the raster appears.

b. Check the white balance in the VGA mode.

5a. Set Brightness just before the raster disappears.

b. Repeat steps 2b. to 5b. until the best white balance is obtained.

E) FOCUS ADJUSTMENT

Input Signal: Dot Test Pattern

1. Set Brightness & Contrast for a normal display.

2. Adjust the focus control at the high voltage resistor block to obtain the best focus over the entire display area.

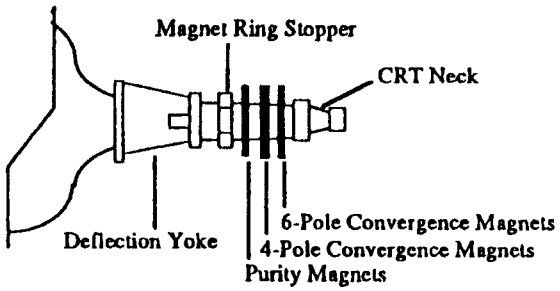
F) STATIC CONVERGENCE ADJUSTMENT

NB: The monitor should be operated for at least 30 mins. before any convergence adjustments are made.

Input Signal: Cross Hatch Pattern

1. Set Brightness & Contrast so that a well-defined pattern is obtained.

2. Ensure that the convergence magnets on the CRT are in the correct position.



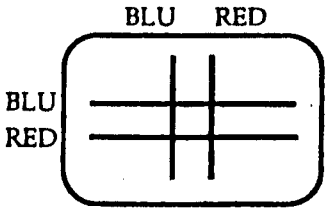
3. Turn the 2 tabs of the 4-pole magnets independently to adjust their angles. Align the red & blue vert. lines at the center of the screen.

4. Turn the 2 tabs of the 4-pole magnets simultaneously to keep their angles constant. Align the red & blue horiz. lines at the center of the screen.

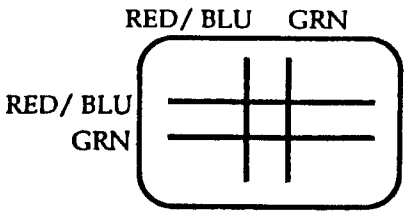
5. Turn the 2 tabs of the 6-pole magnets independently to superimpose the red/blue vert. line on the green one.

6. Turn the 2 tabs of the 6-pole magnets simultaneously to superimpose the red/blue horiz. line on the green one.

7. Repeat steps 3, 4, 5 & 6 until the best convergence is obtained.
   NB: The 4-pole magnets & the 6-pole magnets interact, making dot movements complex.



4-pole magnets movement



6-pole magnets movement

G) DEGAUSSING

Degaussing is required when poor color purity appears on the screen. This monitor uses an automatic degaussing circuit that is activated at power ON. Automatic degaussing will be fully functional within 15 minutes.

The degaussing effect is confined to the picture tube since the coils are mounted at the back of the tube. Should any part of the chassis or cabinet become magnetized, it will be necessary to degauss the affected area with a manual degaussing coil.

Manual Degaussing

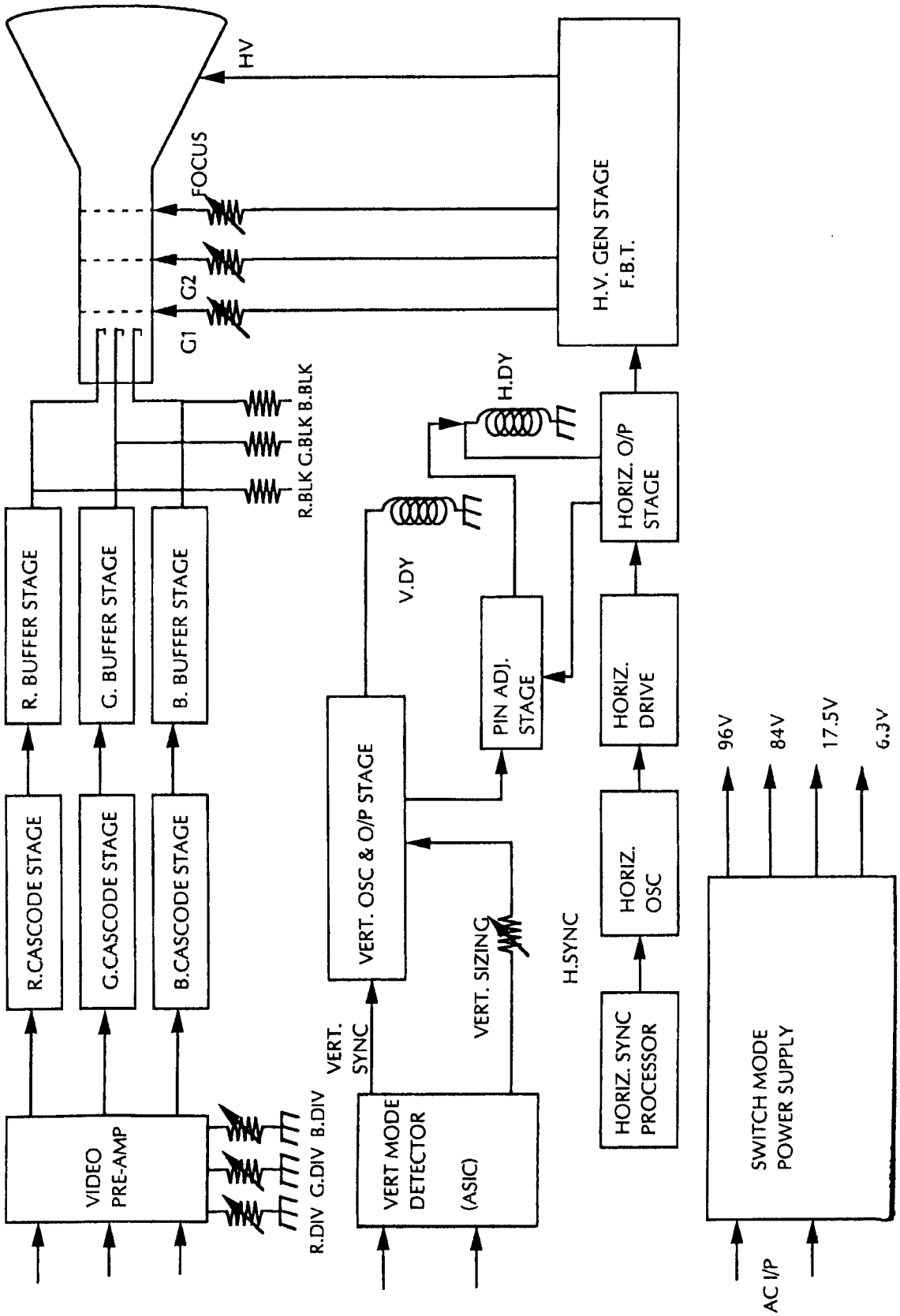
a. Apply line voltage to the degaussing coil and move it in a rotary motion over the front, sides, and top of the monitor. The coil should be kept away from the rear of the monitor to avoid damaging the magnetic neck components.

b. Slowly rotate and back the coil away from the monitor to about 6 feet beyond the point where no effect on the CRT will be noticeable.

For proper degaussing, it is essential that the field be gradually reduced by moving the coil slowly away from the monitor. The degaussing coil must never be shut off or disconnected while near the monitor, as this would introduce a strong field instead of cancelling the effect of the stray fields.

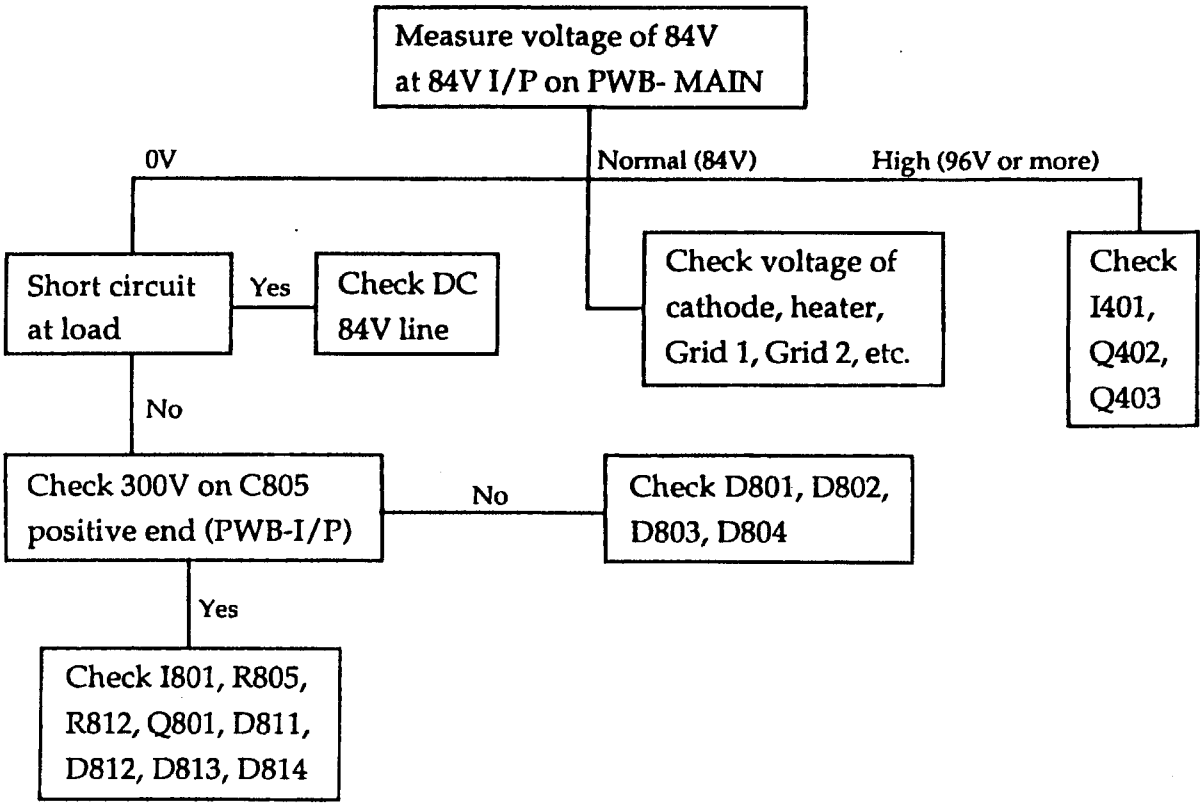
NOTES:

BLOCK DIAGRAM OF SUPERVISION 787 / 787LR COLOUR MONITOR

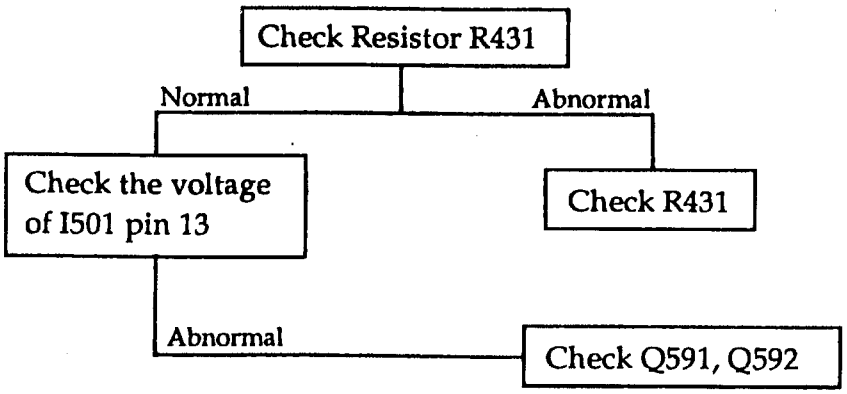


TROUBLE-SHOOTING CHART

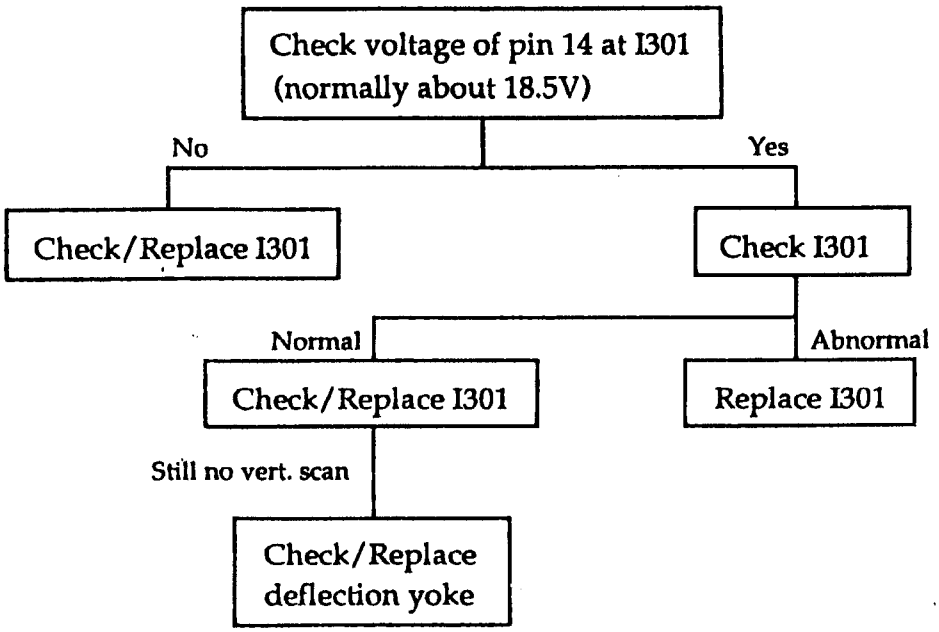
1. NO RASTER


Measure voltage of 84V at 84V I/P on PWB- MAIN
0V
Normal (84V)
High (96V or more)
Short circuit at load
Yes
Check DC 84V line
No
Check voltage of cathode, heater, Grid 1, Grid 2, etc.
Check I401, Q402, Q403
Check 300V on C805 positive end (PWB-I/P)
No
Check D801, D802, D803, D804
Yes
Check I801, R805, R812, Q801, D811, D812, D813, D814

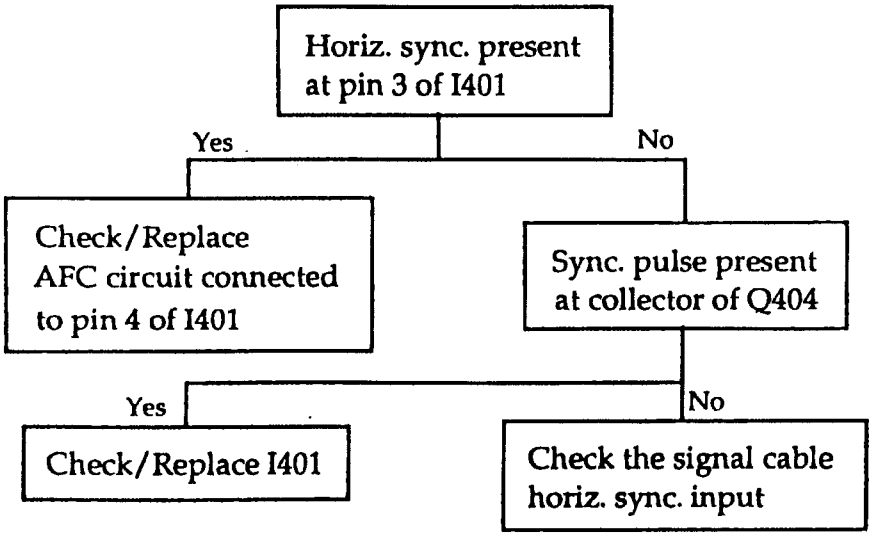
2. AUTOMATIC BRIGHTNESS LIMITER NOT FUNCTIONING



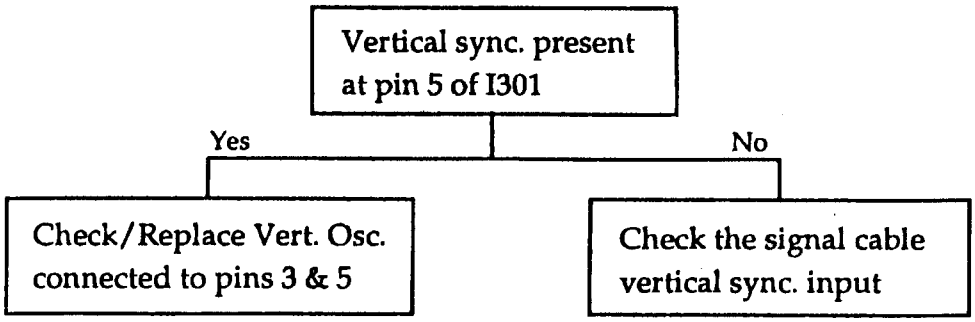
3. NO VERTICAL SCAN (RASTER IS ONE HORIZ. LINE)



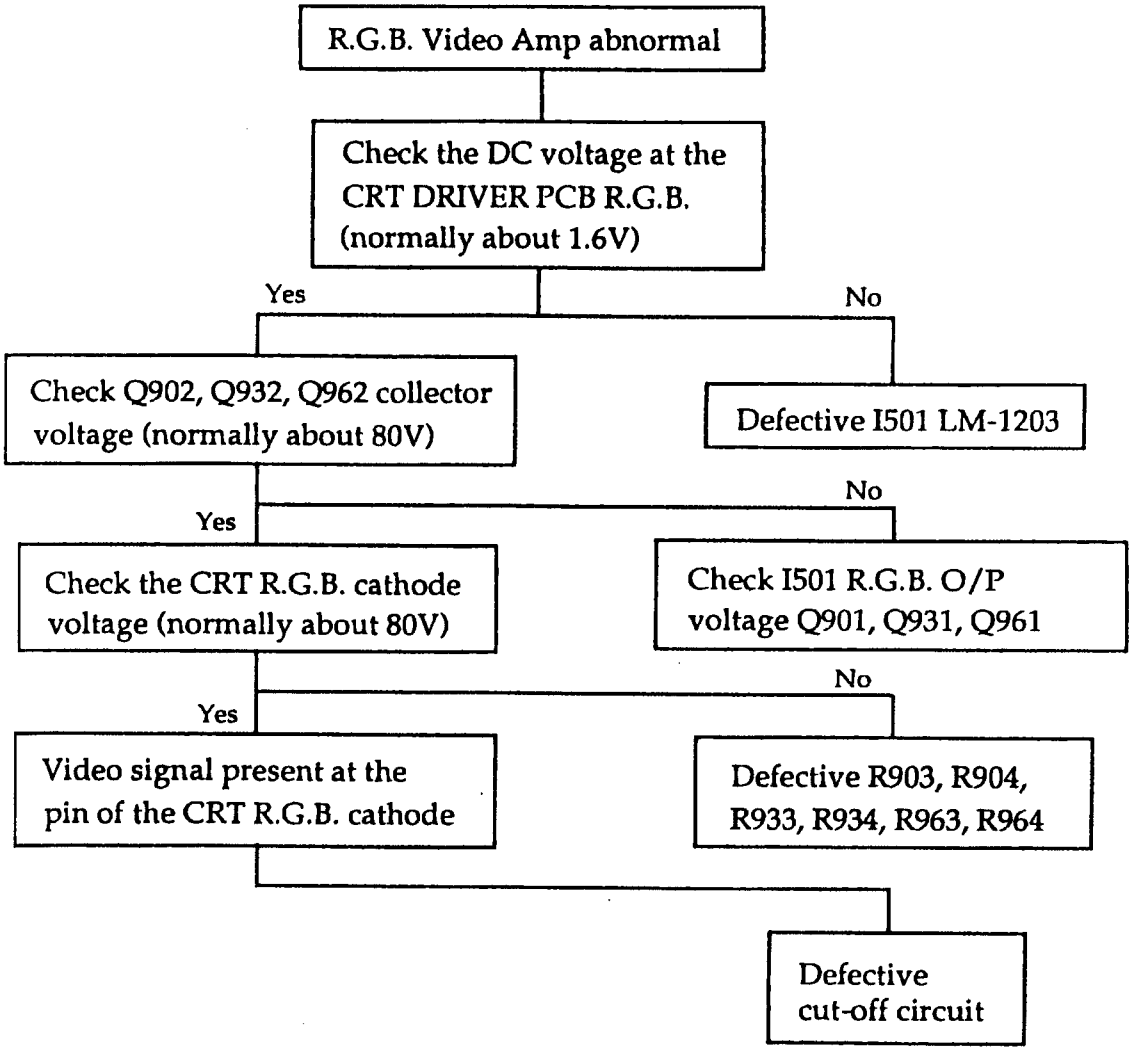
4. OUT OF HORIZ. SYNC.



5. OUT OF VERTICAL SYNC.


Vertical sync. present at pin 5 of I301
Yes
No
Check/Replace Vert. Osc. connected to pins 3 & 5
Check the signal cable vertical sync. input

6. VIDEO AMP ABNORMAL

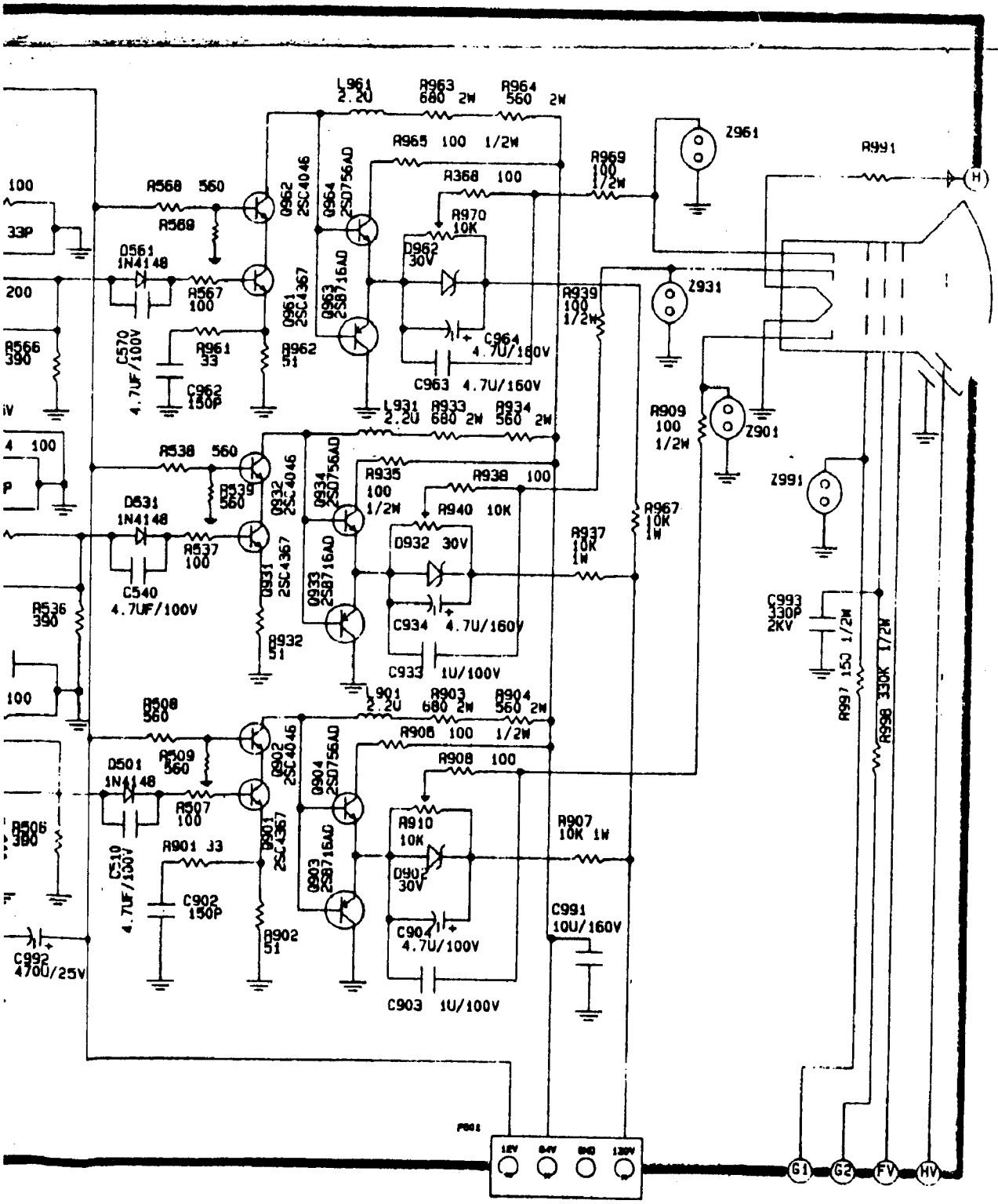

R.G.B. Video Amp abnormal
Check the DC voltage at the CRT DRIVER PCB R.G.B. (normally about 1.6V)
Yes
No
Check Q902, Q932, Q962 collector voltage (normally about 80V)
Defective I501 LM-1203
No
Yes
Check the CRT R.G.B. cathode voltage (normally about 80V)
Check I501 R.G.B. O/P voltage Q901, Q931, Q961
No
Yes
Video signal present at the pin of the CRT R.G.B. cathode
Defective R903, R904, R933, R934, R963, R964
Defective cut-off circuit

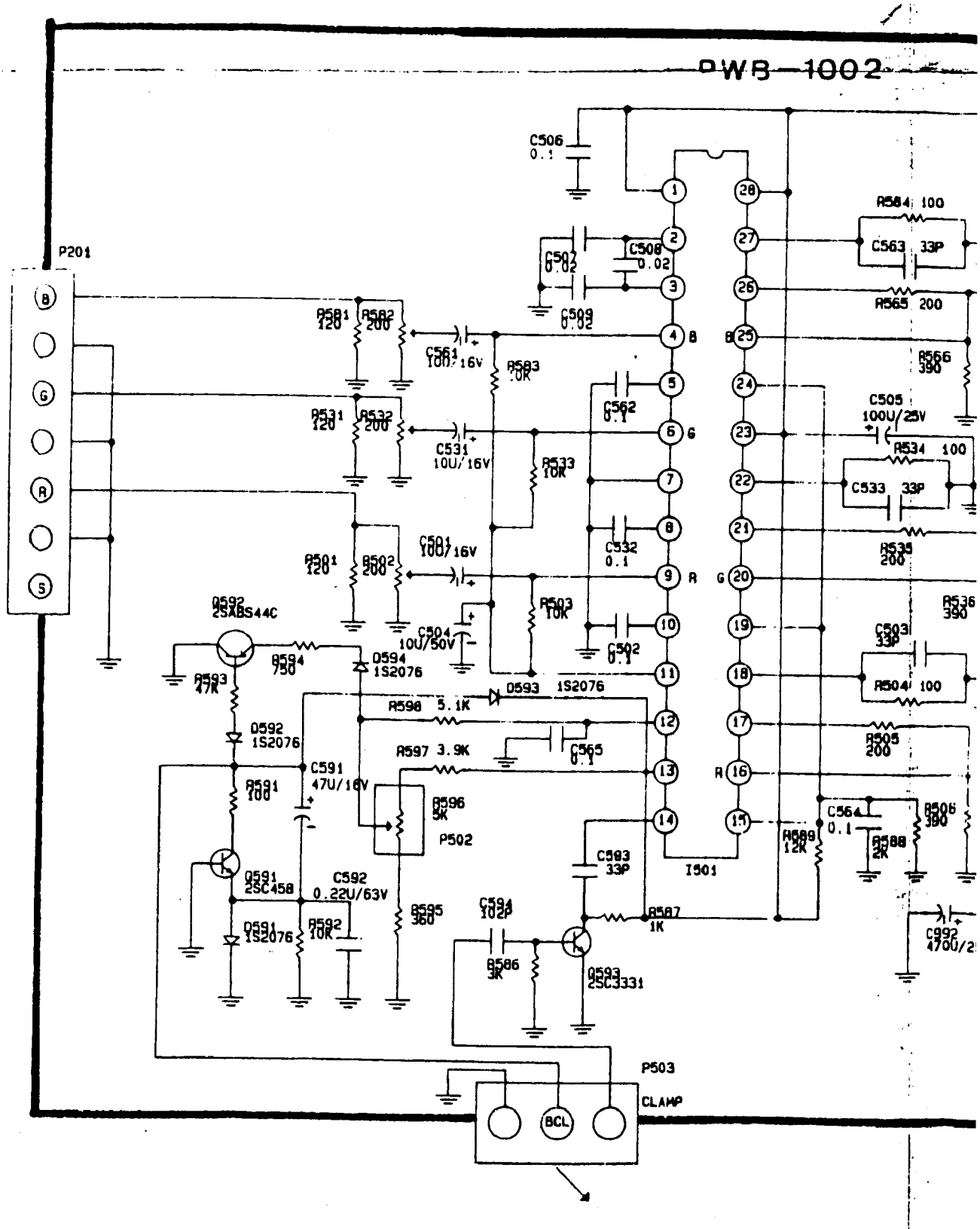
SPARE PARTS LIST SV-787

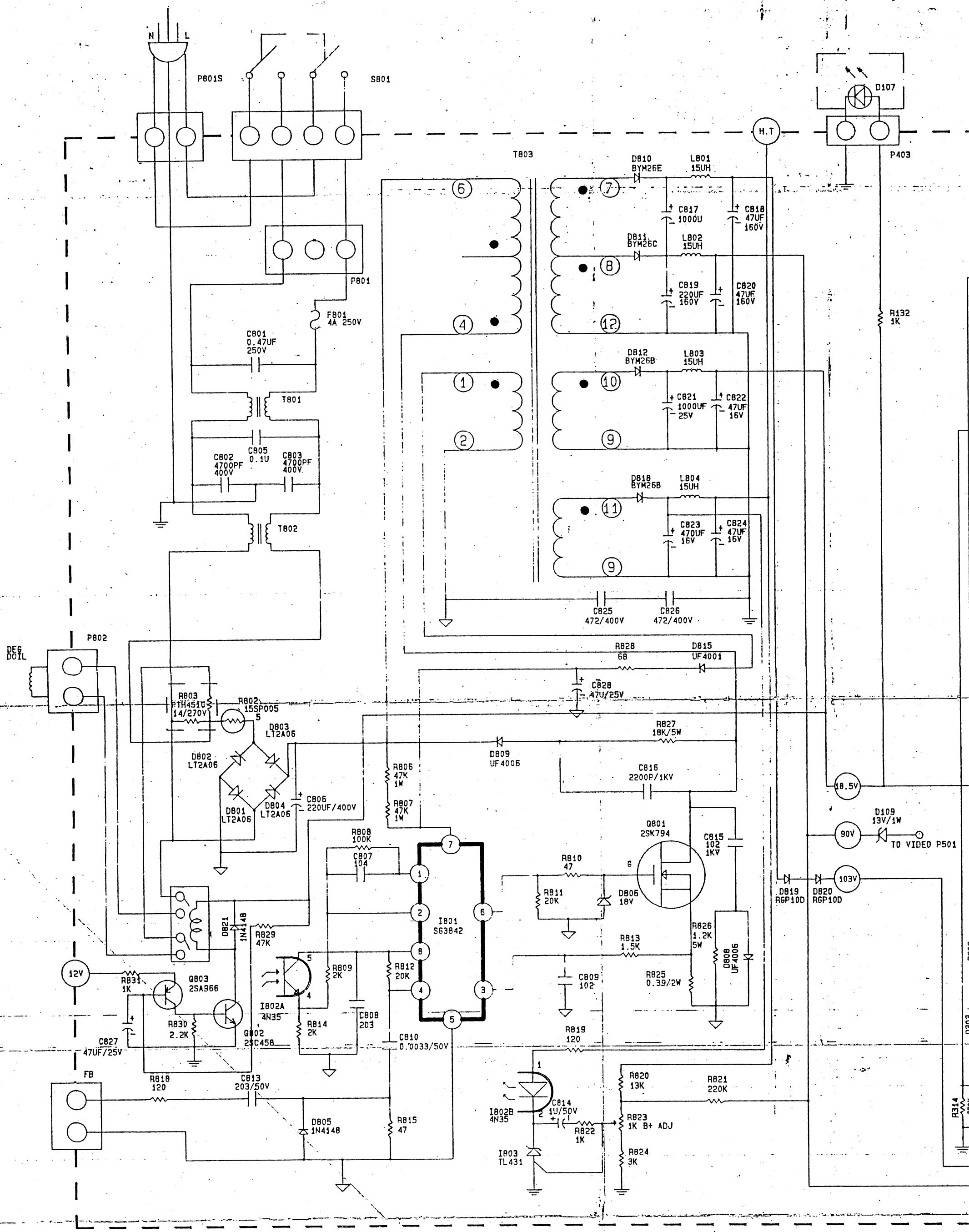
ITEM	LOCATION	PART NO.	DESCRIPTION
1	T803	6131050310	XFRMER PWR
2	T403	6133035010	FBT
3	R802	6201050011	THERMISTOR
4	R803	6203200017	POSISTOR
5	R430	6212220253	RES CF
6	R429	6212220254	RES CF
7	R424	6243502100	V R
8	C802 - 803	6302147201	CAP CD
9	C806	6312622126	ALU
10	D801 - 804	6412000104	DIODE SW
11	D404, D413	6412000904	DIODE SW
12	D403, D405, D407, D819 - 820	6412001004	DIODE SW
13	D808 - 809	6412002506	DIODE SW
14	D304 - 305	6414000104	DIODE ZENER
15	D108	6414051004	DIODE ZENER
16	Q409	6412000700	THYRISTOR SCR
17	Q404, Q802, Q591	6422000205	TR NPN
18	Q402	6422000305	TR NPN
19	Q403	6422000400	TR NPN
20	Q902, Q932, Q962	6422000600	TR NPN
21	Q901, Q931, Q961	6422000700	TR NPN
22	Q934, Q964	6422000800	TR NPN
23	Q406	6422000905	TR NPN
24	Q405	6422001405	TR NPN
25	Q593	6422001505	TR NPN
26	Q803, Q303	6424000105	TR PNP

27	Q592	6424000205	TR PNP
28	Q903, Q933, Q963	6424000405	TR PNP
29	Q801	6426000030	POWER-MOS-FET
30	I301	6442001400	IC LINEAR
31	I401	6442000300	IC LINEAR
32	I108	6442000400	IC LINEAR
33	I801	6442002500	IC LINEAR
34	I501	6442000500	IC LINEAR
35	I802	6442001200	IC LINEAR
36	I803	6442001300	IC LINEAR
37	I109	6442002600	IC ASIC-1
38	I104	6446000500	IC
39	F801	6851004050	FUSE [4A, 250V]
40		7742201722	front cover
41		7742201343	rear cover
42		7749101010	polylon (L)
43		7749191011	polylon (R)
44		7749201032	carton

Video PCB Variable Resistor Function List	
R502	Red Drive
R532	Green Drive
R562	Blue Drive
R596	External Contrast (User Control)
R910	Red Cut-off
R940	Green Cut-off
R970	Blue Cut-off




PWB—1002
P201
B
G
R
S
C506 0.1
C508 0.02
C502 0.02
C509 0.02
R581 120
R582 200
C561 100/16V
R583 10K
R531 120
R532 200
C531 10U/16V
R533 10K
R501 120
R502 200
C501 100/16V
R503 10K
C504 10U/50V
C562 0.1
C532 0.1
C502 0.1
Q592 2SAB544C
R594 750
D594 1S2076
R593 47K
D592 1S2076
R598 5.1K
D593 1S2076
R597 3.9K
C565 0.1
C591 47U/16V
R591 100
R596 5K
P502
Q591 2SC458
C592 0.22U/63V
D591 1S2076
R592 10K
R595 360
C594 102P
R586 3K
Q593 2SC3331
R587 1K
C593 33P
I501
R584 100
C563 33P
R565 200
R566 390
C505 100U/25V
R534 100
C533 33P
R535 200
R536 390
C503 33P
R504 100
R505 200
C564 0.1
R589 12K
R588 2K
R506 390
C992 4700/2
P503
CLAMP
BCL


N
L
P801S
S801
P801
F801
4A 250V
C801
0.47UF
250V
T801
C805
0.1U
C802
4700PF
400V
C803
4700PF
400V
T802
P802
DEG
DOIL
R803
PTH451C
14/270V
R802
15SP005
5
D803
LT2A06
D802
LT2A06
D801
LT2A06
D804
LT2A06
C806
220UF/400V
D821
1N4148
R829
47K
12V
R831
1K
Q803
2SA966
Q802
2SC458
C827
47UF/25V
FB
R818
120
C813
203/50V
D805
1N4148
R808
100K
C807
104
I801
SG3842
I802A
4N35
R809
2K
R814
2K
C808
203
R812
20K
C810
0.0033/50V
R815
47
R805
47K
1W
R807
47K
1W
T803
H.T
D107
P403
D810
BYM26E
L801
15UH
C817
1000U
C818
47UF
160V
D811
BYM26C
L802
15UH
C819
220UF
160V
C820
47UF
160V
R132
1K
D812
BYM26B
L803
15UH
C821
1000UF
25V
C822
47UF
16V
D818
BYM26B
L804
15UH
C823
470UF
16V
C824
47UF
16V
C825
472/400V
C826
472/400V
R828
68
D815
UF4001
C828
47U/25V
R827
18K/5W
D809
UF4006
C816
2200P/1KV
Q801
2SK794
C815
102
1KV
R810
47
R811
20K
D806
18V
R826
1.2K
5W
D808
UF4006
R813
1.5K
C809
102
R825
0.39/2W
R819
120
I802B
4N35
C814
1U/50V
R822
1K
I803
TL431
R820
13K
R821
220K
R823
1K B+ ADJ
R824
3K
18.5V
D109
13V/1W
90V
TO VIDEO P501
103V
D819
R6P10D
D820
R6P10D
R314

P403

12v

P202 H V GND

D110 1N4148

C120 150P

C121 120P

D111 1N4148

R117 300 1/2W

C109 0.1U/50V

D108 5.1V

R147 560

R146 560

R116 1K

R119 15K

C107 330P

I104 74LS221

R132 1K

R129 1K

I109

350 400 480 600 768

R124 100K

R125 200K

R126 300K

R127 200K

R133 200K

X101

R141 6.2M

C103 56P

C104 56P

R115 1K

Q101 2SC458

R338 10K

R339 47K

Q305 2SA950

D308 1S2076

R424 5k

C427 0.0047U 50V

C114 180P

R142 15K

C407 102

R408 1K

C406 0.01

R409 1/2W 3.3K

C405 0.1

R410 2.2K 1/2W

C409 151

31KHZ H.HOLD 5K

R405

R415 10K

Q405 2SC2878

R414 5K

35K H.HOLD

R444 30

Q409 SF0R1B42

C430 100U/25V

D412 5.1V

R121 820

D413 RGP10B

R443 560

R120 390

R151

R152

R153

C431 47U/35V

I401 MC-1391

1 2 3 4

8 7 6 5

R407 10K

R403 3.4K

R402 3K

R406 68K

C402 0.003/100V

C403 0.0056

C404 1U 50V

R404 8.2K

R401 470 1/2W

R412 100

Q402 2SD667C

T401

R417 3K 1/2W

R418 22 1/2W

Q403 2SC3883

C411 102 500V

C412 0.022 250V

R416 3.3K 2W

C418 0.015 800V

C419 0.012 800V

C420 0.015 800V

R419 18K 1W

C313 10U 160V

C421 27P 500V

TP1

C401 220 16V

D401 9.1V

R413 100 1/2W

C301 0.1

D301 1N4002

V.CENTER

R318 5K

R317 220 1W

Q407 2SB857C

D403 RGP10D

D407 RGP10D

TO VIDEO P501

R301 4.7K

C304 220U 50V

C311 1U 50V

R319 300 1/2W

I108 7812

C303 47U 35V

C302 47U/25V

C314 10U/100V

R320 10 1/2W

R331 33K

R330 33K

D302 1S2076

5 15 2 14 11 13

I301 TDA1675

6 4 3 7 9 10 8

1 12

R309 2.2

C307 0.22/100

R310 2.4K

C309 2200UF 25V

R426 4.7K/1/2W

R302 5.6K

R303 13K

R304 5K V.HOLD

C310 0.33

D304 2.7V

D305 2.7V

R305 820K

C305 0.1

R306 56K

R311 100K V.LIN

C326 0.1

C306 0.1

R308 120

C308 47U 10V

R307 2K

R312 1 1/2W

R421 10K

R422 10K

C315 102 500V

R425 10K/1W

Q406 2SC2229

R423 330

R326 3K

R340 2.2K

R329 1K

C316 10U 25V

R328 4.3K

R327 20K P.P.C.

C317 3.3U 50V

Q302 2SC458

R332 68

C318 220U 10V

R333 4.7K

R334 4.7K

C319 681P

R335 4.7K

R336 220 1/2W

R316 43K

R315 100K

C324 2.2U/50V

R314 360K

REVSION HISTORY

ECN: REV: 01

9000001106
9000001314
9000001315
9000001316
9000001351
9000001608
9000001617
9000001632
9000001652
9000001727

3/16/1993

D111
1N4148

I104 74LS221

C114 180P

R142 15K

R121 820

D413 RGP10D

C431 47U/35V

R151 R152 R153

V.DY H.DY

R337 20K

C418 0.015 800V

C313 10U 160V

D307 1S2076

R324 820 1/2W

C419 0.012 800V

R419 18K 1W

R325 7.5K

C420 0.015 800V

C421 27P 500V

L402 L403

R426 270 1W

C422 1000P 500V

D404 RGP10G

C429 1000P 500V

C414 10U 250V

R435 10K 1W

D406 RGP-02-20

R436 1/2W

R437 1/2W

R439 1/2W

R438 4.7M

C413 472/2KV

CLAMP

140V

G2

HV

FV

BCL

G1

10

9

1

5

7

8

6

2

4

T403

P/S SYCN

C424 33U 160V

D407 RGP10D

R428 10K 1/2W

C423 0.47U 100V

R427 300

R320 10 1/2W

C320 1000U 25V

D408 1S2076

Q304 2SC458

D409 27V

R432 120K

C415 10U 160V

D405 RGP10D

R331 33K

R330 33K

Q302 2SC458

BRIT

R434 50K

P402

R332 68

R333 4.7K

R334 4.7K

C426 0.33 250V

C425 0.24 250V

Q303 2SA966

C318 220U 10V

C319 681P

D411 1N4001

D410 1N4001

C428 10U 160V

R433 100K

SUB BRIT

R431 270K 1/2W

C416 10U 50V

R429 2k

R430 2k

Y

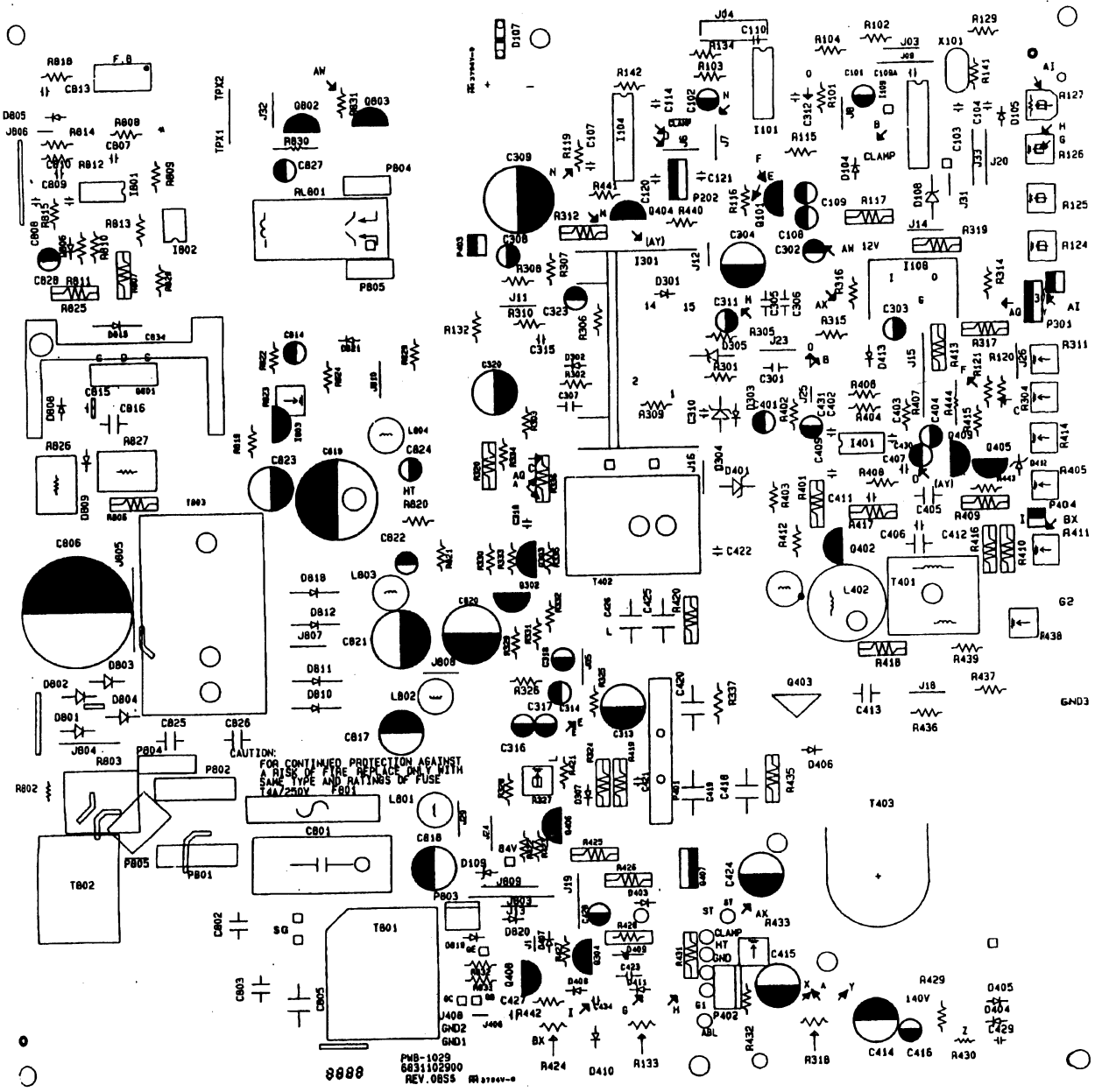
Z

R335 4.7K

R336 220 1/2W

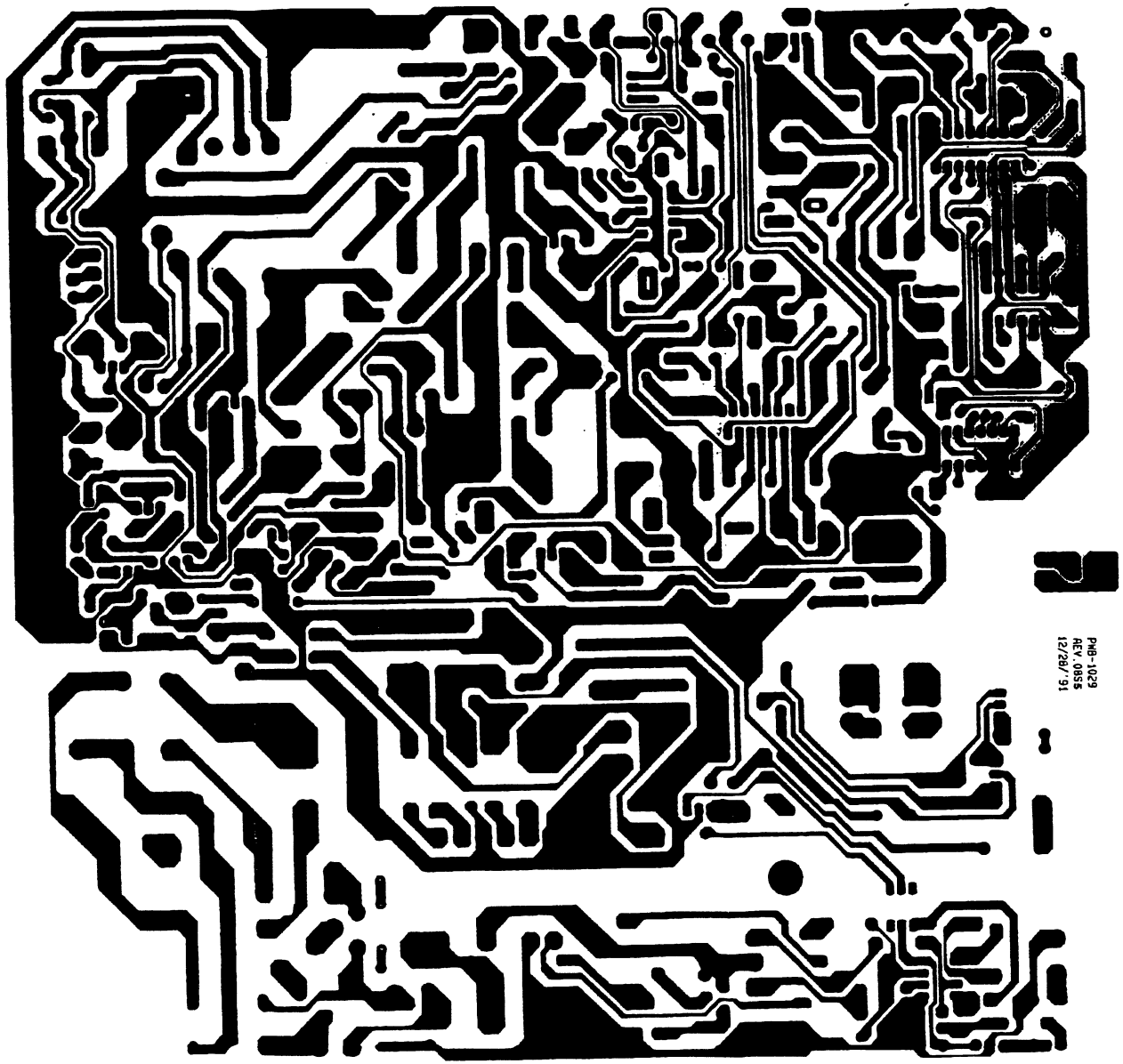
T402 TPC-1001

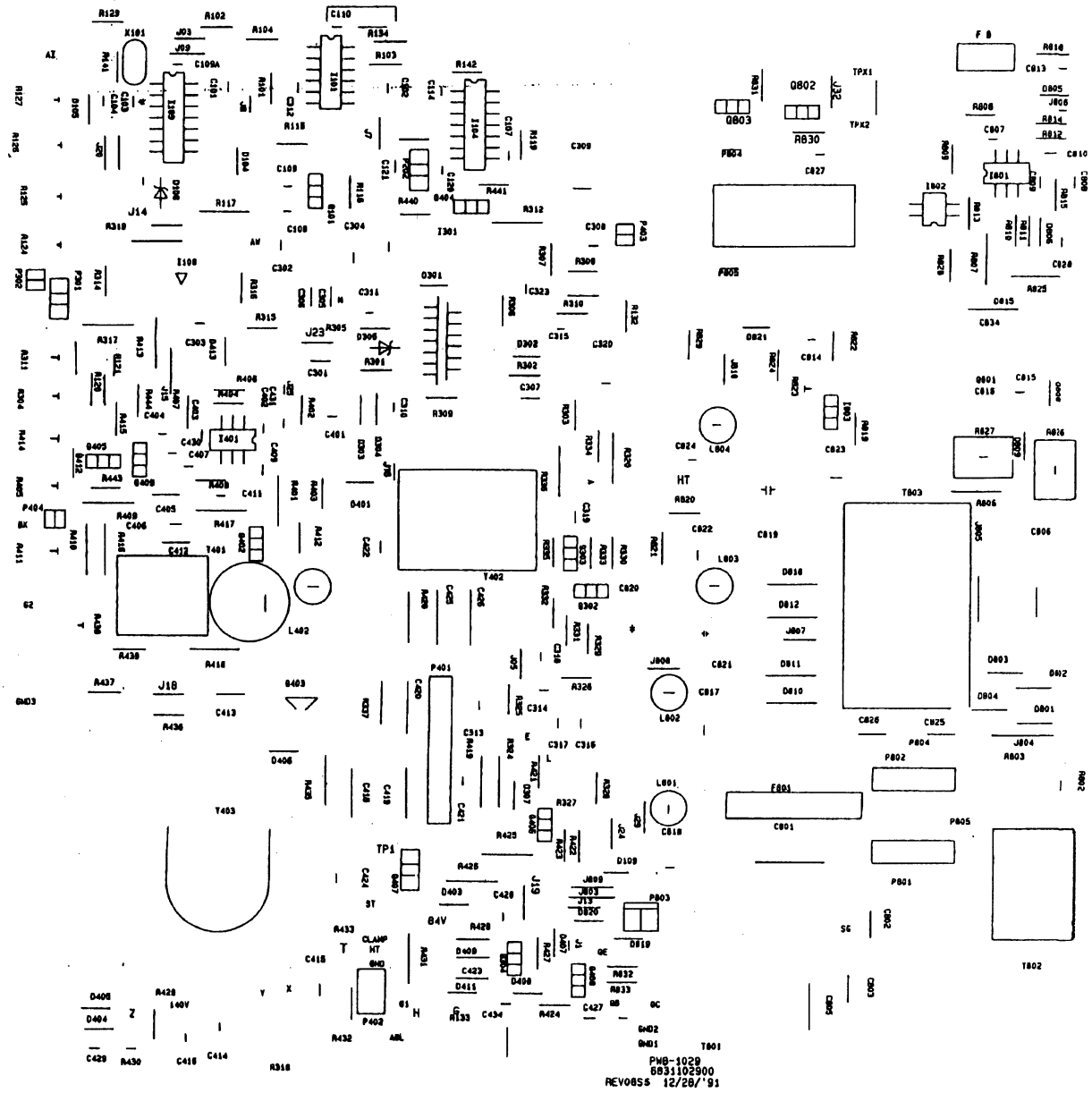
DRAWN: JESSICA.KUO	DATE: 3/16/93	LITE-ON TECHNOLOGY CO.
CHK:	DATE:	TITLE: CM-1414ELR MAIN BOARD CKT.
APPRO.:	DATE:	
DESIGN: S. K. Lee	DATE: 3/17/93	DWG.NO: 8910290000 REVSION: 01



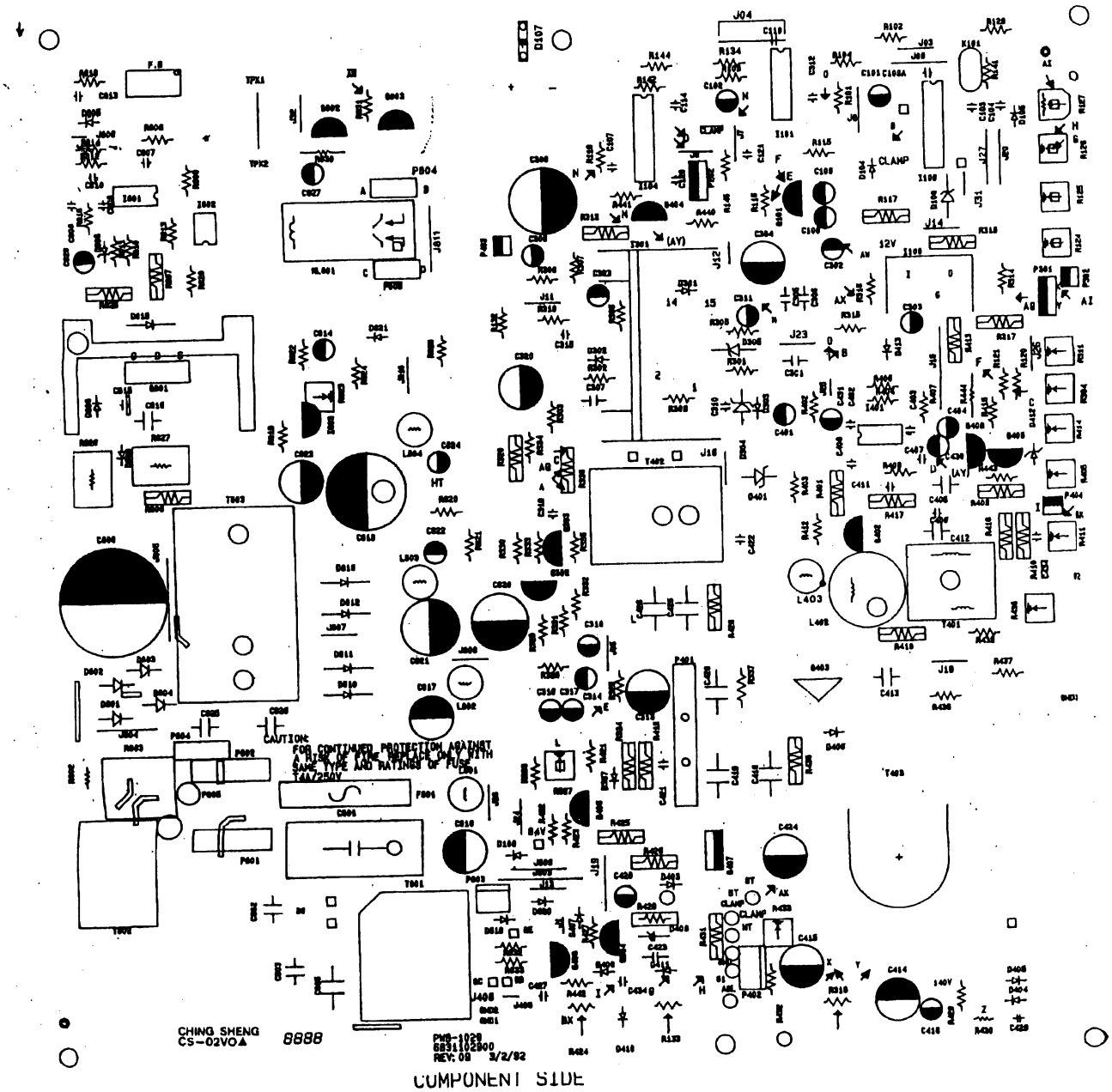
Supervision 787/ 787LR
Main PC Board Rev 08
Component Layout

Supervision 787/ 787LR
Main PC Board Rev 08
Printed Track Layout



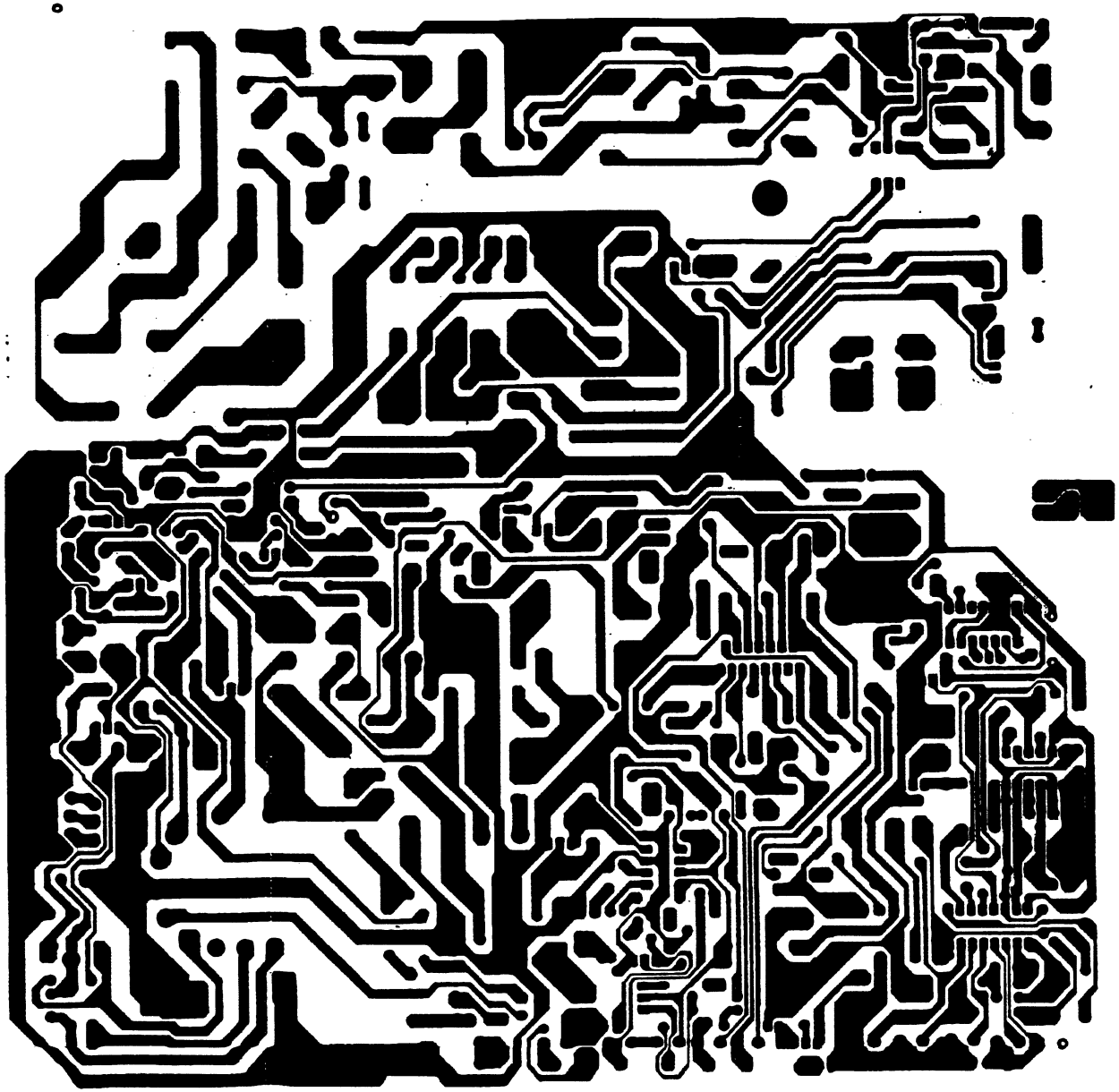


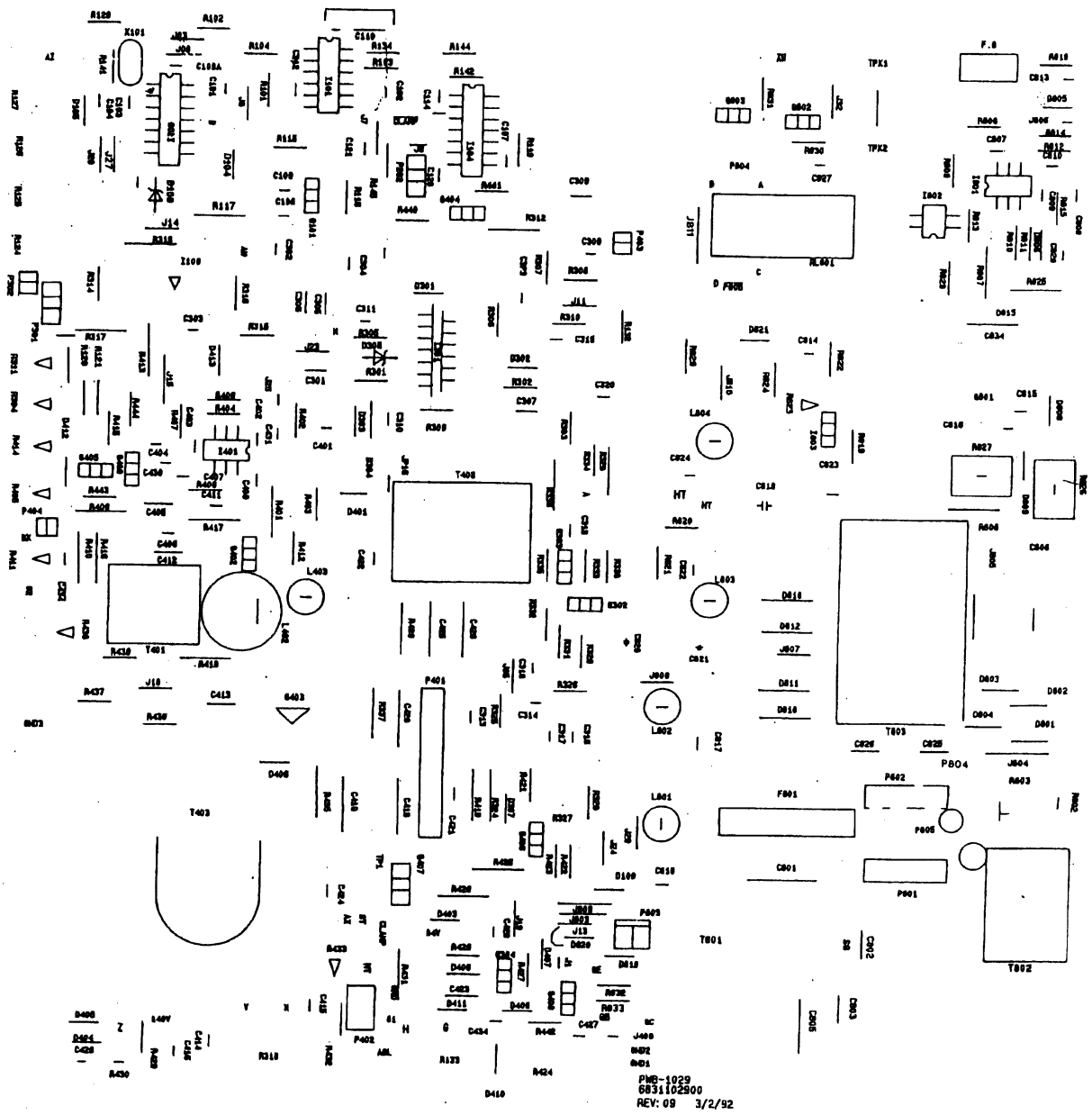
Supervision 787/787LR
Main PC Board Rev 08
Component Layout (solder side)



Supervision 787/ 787LR
Main PC Board Rev 09
Component Layout

Supervision 787/ 787LR
Main PC Board Rev 09
Printed Track Layout





SILKBOT SIDE

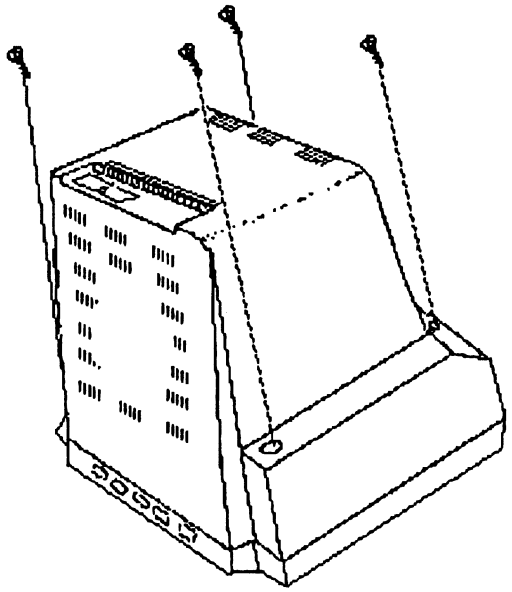
Supervision 787/787LR
Main PC Board Rev 09
Component Layout (solder side)

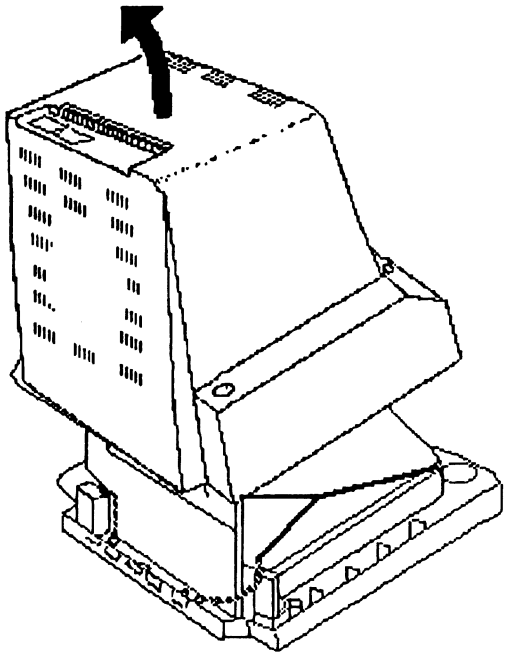
Supervision 787 / 787LR Cabinet Dis-assembly

Instructions for the removal of the tilt-swivel base are contained in the user manual for the product, however it is not necessary to remove the tilt-swivel base to dis-assemble the unit for maintenance purposes.

Remove all power from the monitor and wait at least 20 seconds to allow the mains filter to fully discharge before beginning dis-assembly. Disconnect the video lead from any signal source.

Place the monitor face down on a non-abrading surface such as soft polyethylene foam or a felt pad.





The rear cabinet is secured with four 'Philips' headed machine screws which may be found in the recesses in the back cabinet behind the CRT. These screws are 18mm M4 types. Self-tapping screws should not be used as substitutes.

Once the machine screws have been removed, the rear cabinet may be lifted upwards clear of the remainder of the unit.

Please note that the video pcb is connected permanently to the main pcb and cannot therefore be removed independently without the use of de-soldering equipment.

Great care must be taken to avoid electric shock if power is applied while the monitor is dis-assembled. Please note carefully the warnings and precautions on page 3 of this manual.